10/808327

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Patent of:

HIGAKI et al.

ATTN: CERTIFICATE OF CORRECTIONS BRANCH

Patent Number: 7,254,253

Issued: August 7, 2007

For: MOVING OBJECT DETECTION SYSTEM

REQUEST FOR CERTIFICATE OF CORRECTION

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

November 13, 2007

Sir:

The undersigned requests that a Certificate of Correction be issued for the above-identified patent as indicated on the attached Form PTO-1050.

REMARKS

This request is being made in order to correct an error in claim 1. A copy is enclosed which indicates the correct wording. It is respectfully submitted that no new matter has been added.

Enclosed is a check in the amount of One Hundred Dollars ($100.00) to cover the fee for the Certificate of Correction. In the event that there may be any other fees due with respect to the filing of this paper, please charge Counsel's Deposit Account No. 50-2222.

Respectfully submitted,

Douglas H. Goldhush
Reg. No. 33,125

Customer Number 32294
SQUIRE, SANDERS & DEMPSEY LLP
8000 Towers Crescent Drive, 14th Floor
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

DHG:sp
Enclosures: Check No. 17508; Form 1050

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,254,253

DATED : August 7, 2007

INVENTOR(S) : HIGAKI et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Section 11, column 1

Claim 1, line 1, change "detect" to --detecting--

MAILING ADDRESS OF SENDER:

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 Towers Crescent Drive, 14th Floor
Tysons Corner, Virginia 22182-2700

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FORM PTO 1050 (REV. 3-82)

Japanese Patent Application No. 2003-095483, filed on Mar. 31, 2003, is incorporated herein in its entirety.

While the invention has thus been shown and described with reference to specific embodiments, it should be noted that the invention is in no way limited to the details of the described arrangements; changes and modifications may be made without departing from the scope of the appended claims.

What is claimed is:

1. A system for ~~detect~~ detecting a moving object, comprising:

a plurality of cameras capturing stereoscopic image successively in time series;

distance image generator inputting the images captured in time series and generating a distance image indicative of a distance to an imaged object based on a parallax of the inputted images;

difference image generator inputting the images captured in time series and generating a difference image between the inputted images;

edge image generator inputting the images captured in time series and generating an edge image by extracting pixels where change in brightness is equal to or greater than a predetermined level;

moving object distance setting unit inputting the generated distance image and the difference image and setting a moving object distance indicative of a distance to a position where the moving object is estimated to be present, based on the inputted distance image and the difference image;

moving object distance image generator inputting at least the generated edge image and the set moving object distance and generating a moving object distance image by extracting pixels corresponding to the set moving object distance from the generated edge image;

profile extraction region setting unit inputting at least the generated moving object distance image and summing number of pixels in the inputted moving object distance image to set a profile extraction region, where extraction of the moving object is to be conducted, in the generated moving object distance image by defining a position, where the summed number of pixels is greatest, as its center line;

center line corrector inputting at least the edge image and the defined center line of the profile extraction region and correcting the center line of the profile extraction region based on the inputted edge image; and

moving object detector inputting the profile extraction region whose center line is corrected and extracting a profile of the moving object in the inputted profile extraction region to detect the moving object.

2. The system according to claim 1, wherein the profile extraction region setting unit sums the number of pixels in the inputted moving object distance image to produce a histogram and defines, as the center line, the position where as the histogram is greatest.

3. The system according to claim 1, further including:

color region image generator inputting the images captured in time series and generating a color region image by extracting a predetermined color from the inputted image; and

a data base storing a plurality of color region patterns;

and the center line corrector compares the generated color region image with the stored color region patterns and corrects the center line based on a best match pattern.

4. The system according to claim 3, wherein the predetermined color is a flesh color.

5. The system according to claim 1, wherein the moving object detector extracts the profile of the moving object by using an active profile model.

6. The system according to claim 1, wherein the moving object is a human being.

7. A method of detect a moving object, comprising the steps of:

capturing stereoscopic image successively in time series;

inputting the images captured in time series and generating a distance image indicative of a distance to an imaged object based on a parallax of the inputted images;

inputting the images captured in time series and generating a difference image between the inputted images;

inputting the images captured in time series and generating an edge image by extracting pixels where change in brightness is equal to or greater than a predetermined level;

inputting the generated distance image and the difference image and setting a moving object distance indicative of a distance to a position where the moving object is estimated to be present, based on the inputted distance image and the difference image;

inputting at least the generated edge image and the set moving object distance and generating a moving object distance image by extracting pixels corresponding to the set moving object distance from the generated edge image;

inputting at least the generated moving object distance image and summing number of pixels in the inputted moving object distance image to set a profile extraction region, where extraction of the moving object is to be conducted, in the generated moving object distance image by defining a position, where the summed number of pixels is greatest, as its center line;

inputting at least the edge image and the defined center line of the profile extraction region and correcting the center line of the profile extraction region based on the inputted edge image; and

inputting the profile extraction region whose center line is corrected and extracting a profile of the moving object in the inputted profile extraction region to detect the moving object.

8. The method according to claim 7, wherein the step of profile extraction region setting sums the number of pixels in the inputted moving object distance image to produce a histogram and defines, as the center line, the position where as the histogram is greatest.

9. The method according to claim 7, further including the steps of:

inputting the images captured in time series and generating a color region image by extracting a predetermined color from the inputted image; and

storing a plurality of color region patterns;

and the step of center line correction compares the generated color region image with the stored color region patterns and corrects the center line based on a best match pattern.

10. The method according to claim 9, wherein the predetermined color is a flesh color.

11. The method according to claim 7, wherein the step of moving object detection extracts the profile of the moving object by using an active profile model.

12. The method according to claim 7, wherein the moving object is a human being.

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